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LEXMARK INTERNATIONAL, INC.  
INTELLECTUAL PROPERTY LAW DEPARTMENT  
740 WEST NEW CIRCLE ROAD  
BLDG. 082-1  
LEXINGTON, KY 40550-0999

EXAMINER
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FAISON GEE, VERONICA FAYE

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ELECTRONIC

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* SANDRA HELTON McCain and JOHN MARK MEDLEY

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Appeal 2009-012153  
Application 10/783,896  
U.S. Patent Publication 2005/0183629  
Technology Center 1700

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Decided: October 7, 2009

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*Before:* FRED E. McKELVEY, *Senior Administrative Patent Judge*,  
and RICHARD E. SCHAFER and RICHARD TORCZON, *Administrative  
Patent Judges*.

McKELVEY, *Senior Administrative Patent Judge*.

DECISION ON APPEAL

1 A. Statement of the case

2 Lexmark International, Inc. [hereinafter Lexmark], the real party in  
3 interest, seeks review under 35 U.S.C. § 134(a) of a final rejection (mailed  
4 10 October 2007).

5 The application was filed on 20 February 2004.

6 Claims 5, 7, and 11-14 are on appeal.

7 Claims 1-2 and 9-10 are also in the application, but have been  
8 withdrawn from consideration. Final Rejection, page 2; see also the  
9 Examiner's Office Action, page 2 (mailed 29 August 2006).

10 The following prior art is relied upon by the Examiner in the  
11 Examiner's Answer:

Kanaya	Patent 6,482,256	19 Nov. 2002
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13 The reader should know that "et al." is not used in this opinion.

14 Kanaya is prior art under 35 U.S.C. § 102(b).

15 We have jurisdiction under 35 U.S.C. § 134(a).

16 B. Findings of fact

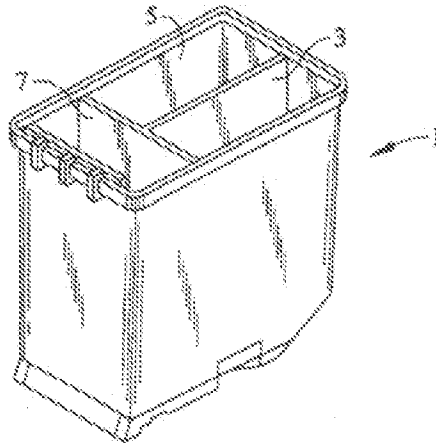
17 The following findings of fact are supported by at least a  
18 preponderance of the evidence.

19 References to the specification are to the specification as filed and not  
20 the U.S. Patent Publication.

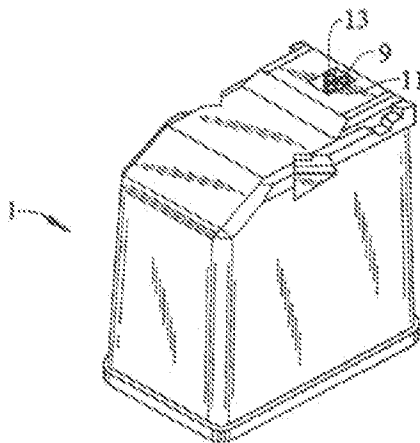
21 Additional findings as necessary may appear in the Discussion portion  
22 of the opinion.

- 1 (1) Lexmark invention  
2 Lexmark Figure 1 and Lexmark Figure 2 are reproduced below.

*FIG. 1*



*FIG. 2*



- 3  
4 Lexmark Fig. 1 depicts a top, perspective view of a printhead with a cover  
5 omitted where the printhead might contain inks of the Lexmark invention.  
6 Fig. 2 depicts a bottom perspective view of the same printhead.  
7

1           Page 8:7-24 of the Specification explains:

2                       Figures 1 and 2 are based on illustrations of U.S. Patent  
3                       No. 5,926,195, assigned to [Lexmark]. The cartridge shown is  
4                       illustrative of a printhead with which [the Lexmark] invention  
5                       may be employed. As shown in Fig. 1 the printhead 1 has three  
6                       chambers 3, 5, and 7 in which two dilute color inks and one  
7                       pigment black ink care [sic—are] kept. Similarly, in a separate  
8                       cartridge the three chambers 3, 5, and 7 each contain full  
9                       intensity inks of different colors. Orifices 9, 11, and 13 shown  
10                      in Fig. 2 permit the ink in each chamber to leave the chamber  
11                      for printing. Each orifice 9, 11, and 13 is in separate liquid  
12                      communication with one of the chambers 3, 5, and 7. As is  
13                      widely practiced, the printhead 1 has a thermal chip or other ink  
14                      discharge device (not shown) which receives ink from orifices  
15                      9, 11, and 13 and applies to ink in small dots or pels on the  
16                      media being imaged.

17                      Ink exits the printhead 1 from the same side (the side  
18                      having orifices 9, 11, and 13 in FIG. 2) and generally from  
19                      locations close together. Moreover, during non-use the  
20                      printhead is brought to a location at which the exit ports are  
21                      capped to prevent evaporation of the ink. Accordingly, inks in  
22                      the typical printheads are subject to some moderate transfer of  
23                      ink between chambers, such as chambers 3, 5, and 7. In  
24                      accordance with [the Lexmark] invention, the dilute inks must

be compatible with the black inks in the moderate amounts which can be transferred across the printhead.

(2) Claim 5

Claim 5 depends from withdrawn independent claim 1. Claim 5, re-written in independent form and reproduced from the claims appendix of the Appeal Brief, reads [bracketed matter, italics, and some indentation added]:

An inkjet printhead for inkjet printing comprising

- [A] at least three separate chambers, each of said chambers having an exit orifice,
- [B] wherein said printhead contains an ink set,
- [C] said ink set comprising at least three separate inks,
- [D] each separate ink being contained in said separate chambers,
- [E] said ink in said chambers being subject to some moderate entry of ink from the other of said chambers,
- [F] *said ink set comprising:*

*[1] a first dilute dye-based color ink of a first color  
in a first of said chambers,*

[2] a second dilute dye-based color ink of a second color in a second of said chambers, and

[3] a black ink comprising black pigment dispersed in water in a third of said chambers,

[G] said first ink and said second ink being compatible with said black ink when in said black ink in moderate amounts

1 [H] said ink set further comprising at least one separate  
2 inkjet printhead containing:

3 [4] a first full intensity color ink having dye as  
4 colorant,

5 [5] a second full intensity color ink having dye as  
6 colorant, and

7 [6] a third full intensity color ink having dye as  
8 colorant.

9 The issue on appeal centers around the italicized language.

10 (3) Summary of the claim 5 invention in the Appeal Brief

11 In the summary of the claimed subject matter in the Appeal Brief,  
12 Lexmark identifies the following support in the specification for the subject  
13 matter of claim 5—reproduced again with drawing numbers, footnotes and  
14 references to the specification added:

15 An inkjet printhead 1 for inkjet printing comprising  
16 [A] at least three separate chambers 3, 5, 7, each of said  
17 chambers having an exit orifice 9, 11, 13 [specification,  
18 page 8:9-14],<sup>1</sup>

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<sup>1</sup> Specification, page 8:9-14: As shown in Fig. 1 the printhead 1 has three chambers 3, 5, and 7 in which two dilute color inks and one pigment black ink care [sic] kept. Similarly, in a separate cartridge the three chambers 3, 5, and 7 each contain full intensity inks of different colors. Orifices 9, 11, and 13 shown in Fig. 2 permit the ink in each chamber to leave the chamber for printing. Each orifice 9, 11, and 13 is in separate liquid communication with one of the chambers 3, 5, and 7.

1 [B] wherein said printhead contains an ink set,  
2 [C] said ink set comprising at least three separate inks,  
3 [D] each separate ink being contained in said separate  
4 chambers 3, 5, 7 [specification, page 8:9-10],<sup>2</sup>  
5 [E] said ink in said chambers 3, 5, 7 being subject to  
6 some moderate entry of ink from the other of said chambers 3,  
7 5, 7 [specification, page 8:21-22],<sup>3</sup>  
8 [F] said ink set comprising:  
9 [1] a first dilute dye-based color ink of a first color  
10 in a first [e.g., 3] of said chambers, 3, 5, 7 [specification,  
11 page 2:23-25 and page 8:9-10],<sup>4</sup>  
12 [2] a second dilute dye-based color ink of a second  
13 color in a second [e.g., 5] of said chambers 3, 5, 7, and  
14 [3] a black ink comprising black pigment dispersed  
15 in water in a third [e.g., 7] of said chambers 3, 5, 7,

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<sup>2</sup> Specification, page 8:9-10: As shown in Fig. 1 the printhead 1 has three chambers 3, 5, and 7 in which two dilute color inks and one pigment black ink care [sic] kept.

<sup>3</sup> Specification, page 8:21-22: [I]nks in the typical printheads are subject to some moderate transfer of ink between chambers, such as chambers 3, 5, and 7.

<sup>4</sup> Specification, page 2:23-25: Additionally, this invention is such an ink set contained in separate compartments 3, 5, 7, in a single ink jet printhead, all inks in that printhead being compatible with the black ink. Specification, page 8:9-10: As shown in Fig. 1 the printhead 1 has three chambers 3, 5, and 7 in which two dilute color inks and one pigment black ink care [sic] kept.



1 [G] said first ink and said second ink being compatible  
2 with said black ink when in said black ink in moderate  
3 amounts,<sup>5</sup>

4 [H] said ink set further comprising at least one separate  
5 inkjet printhead 1 containing:

6 [4] a first full intensity color ink having dye as  
7 colorant [specification, page 3:1-3 and page 8:11-12],<sup>6</sup>

8 [5] a second full intensity color ink having dye as  
9 colorant, and

10 [6] a third full intensity color ink having dye as  
11 colorant.

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<sup>5</sup> Lexmark does not provide a precise numerical definition for "moderate amounts."

<sup>6</sup> Lexmark cites to page 3:1-3 and page 8:11-12 of the Specification. Appeal Brief, page 9. We believe Lexmark meant to cite to Specification, page 2:25 through page 3:2 and page 8:11-12. Specification, page 2:25 through page 3:2: This invention also encompasses a dye set of full intensity color inks separated from a printhead having at least two dilute dye-based inks and dispersant-dispersed pigment ink. Specification, page 8:11-12: Similarly, in *a separate cartridge* the three chambers 3, 5, and 7 each contain full intensity inks of different colors (*italics added*).

1 (4) Examiner's rejection

2 The Examiner rejected claims 5 and 7 under 35 U.S.C. § 102(b) as  
3 anticipated by Takemoto (U.S. Patent 6,075,069). Final Rejection, page 3.

4 The Examiner also rejected claims 5, 7, and 11-14 under 35 U.S.C.  
5 § 102(b) as anticipated by Kanaya. Final Rejection, page 4.

6 The rejection based on Takemoto has been withdrawn. Examiner's  
7 Answer, page 3.

8 (5) Lexmark argument

9 While Lexmark mentions each claim on appeal in the Appeal Brief  
10 and points out how claims 7 and 11-14 further limit, we have been unable to  
11 find any argument why those claims are considered to be separately  
12 patentable apart from claim 5.

13 Accordingly, we will address claim 5. 37 C.F.R. § 41.37(c)(1)(vii)  
14 (2008). Claims 7 and 11-14 stand or fall with claim 5.

15 Lexmark argues that Kanaya does not teach dilute color inks and  
16 black ink each in separate chambers in the same printhead. Appeal Brief,  
17 page 16.

18 Emphasizing the argument in difference terms, Lexmark says that  
19 Kanaya simply does not disclose expressly and/or inherently a pigment  
20 black in the same printhead with two dilute color inks. *Id.*

21 Reemphasizing the argument, Lexmark further states that since  
22 Kanaya does not disclose an ink set for inkjet printing comprising at least  
23 two dilute color inks and a black ink, wherein the dilute color inks and the  
24 black ink are each in separate chambers in the same printed and further  
25 wherein the dilute inks are compatible with the black inks in the moderate

1 amounts which can be transferred across the printhead, Kanaya does not  
2 describe every element of claim 5. Appeal Brief, page 17.

3 (6) The issue

4 In light of the argument presented on appeal, the issue becomes  
5 whether Kanaya describes an ink set for inkjet printing comprising at least  
6 two dilute color inks and a black ink, wherein the dilute color inks and the  
7 black ink are each in separate chambers in the same printhead and further  
8 wherein the dilute inks are compatible with the black ink in the moderate  
9 amounts which can be transferred across the printhead.

10 (7) Kanaya

11 The Kanaya invention relates to color ink sets which are said to have  
12 excellent color reproduction and lightfastness. Col. 1:8-9

13 According to one aspect of the Kanaya invention, there is provided a  
14 magenta ink set comprising two magenta ink compositions different from  
15 each other in color density, [1] a magenta ink composition with higher color  
16 density and [2] a magenta ink composition with lower color density.  
17 Col. 2:18-22.

18 According to a further aspect of the Kanaya invention, there is  
19 provided an ink set comprising: [1] a yellow ink composition; [2] two  
20 magenta ink compositions different from each other in color density, a  
21 magenta ink composition with higher color density and a magenta ink  
22 composition with lower color density; and [3] two cyan ink compositions  
23 different from each other in color density, a cyan ink composition with  
24 higher color density and a cyan ink composition with lower color density.  
25 Col. 3:46-55.

1 With respect to a black ink composition, Kanaya states (col. 21:11-24)  
2 [bracketed matter added]:

3 According to the present invention, the ink set  
4 comprising [1] a yellow ink composition, [2] two magenta ink  
5 compositions different from each other in color density, and  
6 [3] two cyan ink compositions different from each other in  
7 color density may further comprise [4] a black ink composition.

8 Any . . . pigment capable of yielding a black print may be  
9 used as a colorant contained in the black ink composition  
10 usable in the present invention. . . . Examples of pigments  
11 usable herein include black pigments such as carbon black.

12 In connection with a description of lightfastness (Test 1D), Kanaya  
13 states (col. 45:9-31) [bracketed and italics matter added]:

14 For ink sets 3d to 6d, 8d, and 10d, [1] deep magenta,  
15 [2] light magenta, [3] yellow, [4] deep cyan, and [5] light cyan  
16 inks were loaded into respective ink chambers in an ink  
17 cartridge for PM-770C (manufactured by Seiko Epson  
18 corporation [sic]), and blotted images of magenta, yellow, cyan,  
19 red, blue, green, and *composite black* were printed on the  
20 recording media . . . .

21 [P]rinting was carried out under conditions controlled  
22 such that [1] the *red* was constituted by the deep magenta ink,  
23 the light magenta ink, and the yellow ink, [2] the *blue* was  
24 constituted by the deep magenta ink, the light magenta ink, the  
25 deep cyan ink, and the light cyan ink, [3] the *green* was

1 constituted by the yellow ink, the deep cyan ink, and the light  
2 cyan ink, and [4] the *composite black* was constituted by the  
3 deep magenta ink, the light magenta ink, the yellow ink, the  
4 deep cyan ink, the light cyan ink, and the black ink.

5 For ink sets 1d, 2d, 7d, and 9d, [1] yellow, and [2] cyan  
6 inks were loaded into respective ink chambers in an ink  
7 cartridge for MJ-930C (manufactured by Seiko Epson  
8 Corporation), and blotted images of magenta, yellow, cyan, red,  
9 blue, green, and composite black were printed on . . . recording  
10 media . . . .

## 11 C. Discussion

### 12 (1) Lexmark argument

13 As noted earlier, Lexmark's sole argument is that Kanaya does not  
14 describe a first dilute color ink, a second color ink and black ink in separate  
15 chambers of the same printhead. Appeal Brief, pages 16-17.

16 The Examiner found otherwise, citing column 21 and column 45 of  
17 Kanaya, which we reproduced above.

18 Lexmark's argument is brief. Apparently, Lexmark does not think the  
19 column 45 portion of Kanaya "anticipates" because it does not describe  
20 black ink in a separate chamber.

### 21 (2) Kanaya

22 Kanaya explicitly states in column 21 that the ink set composition  
23 may include black ink—in addition to yellow ink, two magenta inks and two  
24 cyan inks. The fact that the five ink embodiment of column 45 does not  
25 include a black ink chamber does not destroy the anticipatory disclosure in

1 column 21 that the ink set may include black ink. In this respect, Kanaya  
2 reveals that cartridges with six chambers are known. Col. 44:67 (cartridge  
3 for six colors, manufactured by Seiko Epson). One skilled in the art is  
4 therefore taught that a six chamber cartridge may be used in which one  
5 chamber contains black ink in the form of a pigment.

6 Kanaya, therefore, describes two embodiments. In a first, black print  
7 is the result of a *composite black* from combinations of dyes. Col. 45. In a  
8 second, black print is a result of a black ink composition *inter alia* from a  
9 pigment such as carbon black. Col. 21.

10 The second Kanaya embodiment describes the limitation which  
11 Lexmark says is missing. It follows that Lexmark has failed to show that the  
12 Examiner erred in rejecting the claims on appeal.

13 (3) Lexmark's compatibility argument

14 Lexmark also argues that Kanaya does not describe a black ink that is  
15 compatible in moderate amounts with the other inks. Kanaya and Lexmark  
16 both describe the use of carbon black based inks. Specification, page 3:6-11  
17 and Kanaya, col. 21:23-24. Lexmark has failed to submit evidence showing  
18 that the carbon black of Kanaya is not compatible in moderate amounts with  
19 the other Kanaya inks. As Lexmark should know, the USPTO does not have  
20 testing facilities to look into compatibility characteristics of inks. *In re*  
21 *Brown*, 459 F.2d 531, 535 (CCPA 1972).

22 (4) Arguments waived by Lexmark

23 We have noted that Lexmark restricted the arguments on appeal to  
24 those set out above. To the extent that other arguments might have been, but  
25 were not made, those other arguments are waived. For example, Lexmark

1 has not addressed the "at least one separate inkjet printhead" limitation of  
2 claim 5. Because Lexmark did not address that limitation, the Examiner had  
3 no occasion to address it and we have no occasion to address a limitation not  
4 called to the attention of the Examiner.

5 With respect to claims 7 and 11-14, Lexmark identifies additional  
6 limitations. However, Lexmark does not explain why those additional  
7 limitations render claims 7 and 11-14 patentable apart from claim 5. "A  
8 statement which merely points out what a claim recites will not be  
9 considered an argument for separate patentability of the claim." 37 C.F.R.  
10 § 41.37(c)(1)(vii) (2008), last sentence. Claims 7 and 11-14 therefore fall  
11 with claim 5.

12 (5) Additional comment

13 We have found that Lexmark has not established on appeal—as was  
14 its burden—that the Examiner erred in rejecting claim 5 as anticipated.

15 Had we found otherwise, we would have made a new ground of  
16 rejection under 35 U.S.C. § 103 based on Kanaya. 37 C.F.R. § 41.50(b)  
17 (2008). However, since we affirm the § 102 rejection, we exercise  
18 discretion not to also make a § 103 rejection because it would result in  
19 reopening prosecution and we see no need or reason for doing so.

1 D. Decision

2 Lexmark has not sustained its burden on appeal of showing that the  
3 Examiner erred in rejecting the claims on appeal as being unpatentable under  
4 35 U.S.C. § 102(b) over Kanaya.

5 Upon consideration of the appeal, and for the reasons given herein,  
6 it is

7 ORDERED that the decision of the Examiner rejecting  
8 claims 5, 7, and 11-14 under 35 U.S.C. § 102(b) over Kanaya is *affirmed*.

9 FURTHER ORDERED that no time period for taking any  
10 subsequent action in connection with this appeal may be extended under  
11 37 C.F.R. § 1.136(a)(1)(iv) (2008).

AFFIRMED

KMF

cc (via First Class mail)

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